MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
(A Govt. of Maharashtra Undertaking)
CIN: U40109MH2005SGC153645

Office of the Chief Engineer (Commercial)
Maharashtra State Electricity Distribution Co. Ltd.
"Prakashgad", 5th Floor, Station Road, Bandra (E), Mumbai -400 051.
Tel.: (P) 26474753, (O) 26474211, Fax : (022) 26472366
Email: cecomm@mahadiscom.in, Website: www.mahadiscom.com

No. Comm/MERC/2016/ 5160 Date: 04-03-2017

To
The Secretary,
Maharashtra Electricity Regulatory Commission,
13th Floor, Centre No.1, World Trade Centre,
Cuffe Parade,Mumbai – 400 005.

Sub: Petition for seeking revision in wind zone class allotted by MEDA in respect of wind power projects.

Respected Sir,

With reference to the above subject, please find enclosed herewith the MSEDCL petition for seeking Petition for seeking revision in wind zone class allotted by MEDA in respect of wind power projects.

The requisite fees of Rs. 10000/- (Rs. Ten Thousand Only) is submitted herewith Demand Draft No. dated

Submitted for further needful please.

Thanking you,

Yours faithfully,

Chief Engineer (Power Purchase)

Copy s. w. r. to:
1. The Director (Operations), MSEDCL, Mumbai,
2. The Executive Director (Commercial), MSEDCL, Mumbai.

Copy to:
1. Prayas (Energy Group),
   Amrita clinic, Athwale Corner, Lakdipool-Karve Road Junction,
   Deccan Gymkhana, Karve Road, Pune – 411 004
2. Mumbai Grahak Panchayat,
   Grahak Bhavan, Sant Dnyaneshwar Marg,
   Behind Cooper Hospital, Vile Parle (West), Mumbai – 400 056
3. The General Secretary, Thane Belapur Industries Association,
   Plot No. P-14, MIDC, Rabale Village, PO Ghansoli, Navi Mumbai - 400 701
4. Vidarbha Industries Association,
   1st Floor, Udyog Bhavan, Civil lines, Nagpur - 440 001
5. Maharashtra Chamber Of Commerce,
   Industry & Agriculture, Oricon House, 6th Foor,
   12 K. Dubash Marg, Fort, Mumbai-400 001
6. Chamber of Marathwada Industries & Agriculture
   Bajaj Bhavan, P-2, MIDC Industrial Area,
   Railway Station Road,
   Aurangabad – 431005.

BEFORE THE MAHARASHTRA STATE ELECTRICITY REGULATORY COMMISSION, MUMBAI

Filing No.: _____

Case No.: _____

In the matter of:

Petition for seeking revision in wind zone class allotted by MEDA in respect of wind power projects which are getting consistently higher generation on actual basis for last 3 years.

Affidavit

I, Paresh Bhagwat, aged years, having my office at Maharashtra State Electricity Distribution Co. Ltd, Prakashgad, 5th Floor, Plot No. G - 9, Anant Kanekar Marg, Bandra (East), Mumbai 400 051, do solemnly affirm and say as follows:

I am Chief Engineer (Power Purchase) of the Maharashtra State Electricity Distribution Company Limited (hereinafter referred to as **"MSEDCL"** for the sake of brevity), the Petitioner in the above matter and am duly authorized to make this affidavit.

The averments made in the enclosed petition in the matter of the petition filed by Maharashtra State Electricity Distribution Company Limited are based on the information received from the concerned officers of the Company and I believed them to be true.

I say that there are no proceedings pending in any court of law / tribunal or arbitrator or any other authority, wherein the petitioner is a party and where issues arising and or reliefs sought are identical or similarly to be issues arising in the matter pending before the Commission.

I solemnly affirm at Mumbai on this th Day of March, 2017 that the contents of this affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

Chief Engineer (Power Purchase)
Respondent MSEDCL

Identified before me

P. K. DUBEY
B.A.LL.B.
ADVOCATE HIGH COURT
Lawyer's Chamber Bhaskar Bldg.,
2nd Floor, Bandra Court.
Bandra (East), Mumbai - 400 051.

NOTARY M. S. GAITONDE OF MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

BEFORE ME

4/3/2017

M. S. GAITONDE
B.A.LL.M
NOTARY
GREATER MUMBAI
GOVT. OF MAHARASHTRA
INDIA

NOTED	REGISTER
Sr. No. 495	4-3-2017

BEFORE THE MAHARASHTRA ELECTRICITY REGULATORY COMMISSION, MUMBAI

Filing No.: _____

Case No.: _____

IN THE MATTER OF:

PETITION FOR SEEKING REVISION IN WIND ZONE CLASS ALLOTTED BY MEDA IN RESPECT OF WIND POWER PROJECTS WHICH ARE GETTING CONSISTENTLY HIGHER GENERATION ON ACTUAL BASIS FOR LAST 3 YEARS; AND

IN THE MATTER OF:

REGULATION 79 OF MAHARASHTRA ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF RENEWABLE ENERGY TARIFF) REGULATIONS, 2015; AND

IN THE MATTER OF:

REGULATION 80 OF MAHARASHTRA ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF RENEWABLE ENERGY TARIFF) REGULATIONS, 2015; AND

IN THE MATTER OF:

REGULATION 81 OF MAHARASHTRA ELECTRICITY REGULATORY COMMISSION (TERMS AND CONDITIONS FOR DETERMINATION OF RENEWABLE ENERGY TARIFF) REGULATIONS, 2015; AND

IN THE MATTER OF:

PETITION SEEKING DIRECTIONS TO BE ISSUED TO MEDA FOR RECLASSIFICATION OF WIND ZONES BASED ON NEW CUF NORMS AND HEIGHT OF WIND MILLS/FARMS IN ACCORDANCE WITH VARIOUS ORDERS/REGULATIONS OF THIS HON'BLE COMMISSION; AND

NOTARY
M. S. GAITONDE
OF MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

IN THE MATTER OF:

Maharashtra State Electricity Distribution Company Ltd ... **Petitioner**

VERSUS

Maharashtra Energy Development Agency (MEDA)

... **Respondent**

MOST RESPECTFULLY SHEWETH:

1. Maharashtra State Electricity Distribution Co. Ltd. (hereinafter to be referred to as "MSEDCL" or "the Petitioner") has been incorporated under Indian Companies Act, 1956 pursuant to decision of Government of Maharashtra to reorganize erstwhile Maharashtra State Electricity Board (herein after referred to as "MSEB"). The Petitioner submits that the said reorganization of the MSEB has been done by Government of Maharashtra pursuant to "Part XIII – Reorganization of Board" read with section 131 of The Electricity Act 2003. The Petitioner has been incorporated on 31.5.2005 with the Registrar of Companies, Maharashtra, Mumbai and has obtained Certificate of Commencement of Business on 15th Sep 2005. The Petitioner is a Distribution Licensee under the provisions of the Electricity Act, 2003 (EA, 2003) having license to supply electricity in the State of Maharashtra except some parts of city of Mumbai.

2. MSEDCL is a Company constituted under the provisions of Government of Maharashtra, General Resolution No. PLA-1003/C.R.8588/Energy-5 dated 25th January 2005 and is duly registered with the Registrar of Companies, Mumbai on 31st May 2005. MSEDCL is functioning in accordance with the provisions envisaged in the Electricity Act, 2003 and is engaged, within the framework of the Electricity Act, 2003, in the business of Distribution of Electricity to its consumers situated over the entire State of Maharashtra, except some parts of city of Mumbai.

3. Maharashtra Energy Development Agency (MEDA) is a registered Society which got registered on 26.07.1985 and started its operation from July, 1986 with the objective to undertake development of

NOTARY M. S. GAITONDE OF MUMBAI REGD. NO 193/19 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

renewable energy and facilitate energy conversation in the State of Maharashtra. It is submitted that MEDA acts as a nodal agency under the umbrella of MNRE.

4. It is most respectfully submitted that this Hon'ble Commission notified the MERC (Terms and Conditions of Renewable Energy Tariff) Regulations, 2010 in June 2010 and specified norms to be adopted for determination of tariff of electricity generated by various Renewable Energy Sources. The Commission also specified the Capacity Utilization Factor (CUF) of various sources including wind energy.

The relevant extracts of the said Regulations are reproduced as under:

*"... **26: Capacity Utilisation Factor***

26.1 Capacity Utilisation Factor (CUF) norms for the Control Period shall be as follows:

Wind Zone	*Annual Mean Wind Power Density (W/m2)*	*CUF*
Zone 1	*200-250*	*20%*
Zone 2	*250-300*	*23%*
Zone 3	*300-400*	*27%*
Zone 4	*> 400*	*30%*

26.2 The annual mean wind power density specified in Regulation 26.1 above shall be measured at 50 metre hub-height.

26.3 For the purpose of classification of wind energy project into particular wind zone class, the State-wise wind power density map prepared by the Centre for Wind Energy Technology (C-WET) and enclosed as Schedule to these Regulations, shall be considered.

Provided that the Commission may by notification in official gazette, amend the schedule from time to time, based on the input provided by C-WET/MNRE. ..."

NOTARY M. S. GAITONDE OF MUMBAI REGD. NO 193/1985 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

5. It is submitted that based on the above said tariff determination norms this Hon'ble Commission has been determining generic tariff for wind energy through Suo-Motu proceedings each year from FY 2010-11 up to FY 2015-16 by issuing separate RE tariff orders.

6. It is pertinent to note that this Hon'ble Commission issued its first RE tariff order on 14.07.2010 in Case No. 20 of 2010 in the matter of determination of tariff for various renewable energy sources regarding wind zone classification wherein this Hon'ble Commission ruled as under:

*".... **Commission's Ruling***

Regulation 26.3 of the MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010 specifies that the State-wise wind power density map prepared by Centre for Wind Energy Technology (C-WET) shall form the basis of classification of wind energy project into particular wind zone class.

In view of operational concerns expressed by the Wind Energy developers and MSEDCL, the Commission directs Maharashtra Energy Development Agency ("MEDA") to devise suitable procedures for operationalizing the same in consultation with C-WET/Wind Energy developers and distribution licensees within two months from issuance of this Order and also publish such information on its website on regular basis. ..."

7. It is pertinent to note that this Hon'ble Commission however proceeded to determine the zone wise levellised tariff for wind power projects which were expected to be commissioned in FY 2010-11. For determination of tariff, this Commission considered the expected annual generation from the project based on the CUF mentioned in MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010 only.

8. For FY 2011-12, this Hon'ble Commission issued RE tariff order dated 29.04.2011 wherein it was ruled as under:

"... 3.11. INTERIM MECHANISM FOR WIND TARIFF DETERMINATION

NOTARY M. S. GAITONDE GT MUMBAI REGD. NO 193/1988 Expiry Date 26-02-20[illegible] GOVT. OF MAHARASHTRA

As regards operationalization of a Wind Zone based tariff, the Commission in its generic RE Tariff Order for FY 2010-11 (Case No. 20 of 2010 dated July 14, 2010) had directed the State Nodal Agency, MEDA to devise suitable procedures in consultation with C-WET/Wind Energy developers and distribution licensees within two months from issuance of the Generic RE tariff Order for first year of the Control Period and also directed MEDA to publish such information on its website on regular basis. However, it is understood that development of such procedures is at an advanced stage of finalization .

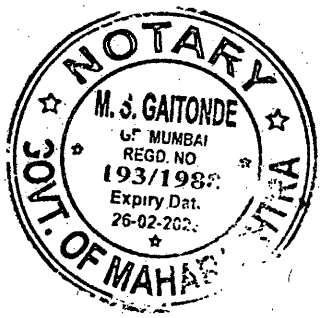
.....

Pending finalisation of such procedure and in order to remove the difficulty being faced in classifying wind power projects under appropriate wind zone and execution of EPAs between the wind energy producers and DISCOMS, the Commission in pursuance of the provisions of „Removal of Difficulty" under Regulation 77.1 of the MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010 has decided to allow an interim mechanism wherein a uniform tariff irrespective of wind zone shall be applicable for wind energy purchase by distribution licensees under preferential tariff route. The uniform tariff shall be equivalent to that determined considering the parameters pertaining to Wind Zone 2 as is specified under the MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010. The applicable tariff under Wind Zone 2 has been specified under section 3.12 of this Order.

The Interim Tariff applicable for the wind power projects in the State of Maharashtra commissioned during FY 2010-11 shall be the tariff determined for wind zone 2 as specified in section 3.11 of the Suo-Motu Generic RE Tariff Order for FY 2010-11 (Case No. 20 of 2010 dated July 14, 2010).

The Interim Tariff applicable for the wind power projects in the State of Maharashtra commissioned during FY 2011-12 shall be the tariff determined for wind zone 2 as specified in section 3.12 of this Order.

However, this interim mechanism shall be in force only till the time of finalisation of the procedure for operationalisation of zone-wise tariff in



the State by MEDA. Once the procedures are finalised, the zone wise tariff, as determined through the yearly Suo-Motu Generic Tariff Order for projects commissioned after notification of MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010, shall be applicable with retrospective effect. The adjustments for over-recovery or under-recovery, as the case may be, in tariff owing to wind power projects falling under wind zones other than Wind Zone 2 shall be carried out between the distribution licensee and wind energy developers provided wind energy developers submit necessary certification supporting the respective wind Zone under which their projects qualify. ..."

9. MSEDCL implemented the said order and the payments to wind generators were made initially as per wind zone 2 tariff. It is pertinent to note that from FY 2012-13, the MEDA devised a procedure for classification of wind power projects into a particular wind zone class as per MERC directives. Payment is being made to the wind generators as per wind zone class certified by MEDA.

10. However, it is submitted that in or around 2013-14, it was observed that some Wind Power Projects are getting generation @ CUF which was more than the corresponding wind zone class allotted by MEDA. Accordingly, MSEDCL raised the issue of mismatch between the wind zone wise classification considered and approved by the MEDA and the actual (higher) generation of electricity from the wind power projects on annual basis, before MERC and MEDA.

11. It was also pointed out that most of the new wind power projects which are commissioned in the recent past is having the hub height in the range of 80 to 110 meters. Greater hub height of wind turbines allowed greater utilization of wind energy due to the greater wind potential available at higher heights and a larger rotor diameter. However, most of the wind power projects were still getting classified into wind zone-1 only with CUF ≤ 20-22% which was the minimum CUF, as MEDA had continued with the procedure of wind zone classification based on historical data of wind power density measurement at 50 m hub height.

12. The CUF was one of the important parameter considered by this Hon'ble Commission for determination of wind tariff; which ensured

NOTARY M. S. GAITONDE GT. MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

recovery of costs in 13 years of EPA tenure. Lower CUF indicated lower annual generation and consequently led to determination of higher tariff. On the other hand, higher CUF implied lower tariff.

13. It is pertinent to mention that this Hon'ble Commission in its order dated 07.07.2014 in Case No. 100 of 2014 has considered this aspect and observed that:

"... The Commission observes that CERC while issuing the RE Tariff Regulations, 2012 has revised zone-wise classification and respective CUF based on 80m hub height highlighting that there is no merit in contentions that WPD zones should be defined at 50m when most of the wind turbines being installed in India are having hub heights of about 80m. Further, the Commission notes that CERC while formulating its RE Tariff Regulations, 2012 has observed that some of the stakeholders including manufacturers of wind turbine are also in agreement with considering 80 m hub height against 50m hub height turbines.

The Commission is of the view that while promoting the wind power generation through preferential tariff and other Regulatory measures, the benefit of advancement in the technology and improvement in the performance thereof should also be passed onto the utilities/consumers . In this context, the Commission notes the submission made by MSEDCL that there is need to review the wind zone classification based on the actual generation by wind power project at the end of the financial year. ..."

Appreciating MSEDCL's concern about the rapidly increasing Annual Wind Power capacity addition in Maharashtra over past decade, Hon'ble Commission has recognized that CUF to be specified against revised Zone-wise classification and higher hub height need to be established through study of actual CUF data, for the purpose which MEDA has been directed to submit a report of project-wise CUF of Wind Projects in the state which would be taken into consideration to arrive at the CUF Norms to be specified against the revised Zone-wise classification at higher hub height and result of such analysis shall be considered by the commission for arriving at appropriate CUF Norms in the future years for further determination of Zone wise tariff.

NOTARY
M. S. GAITONDE
Gr. MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

In catena of the abovementioned directives issued by the Hon'ble Commission, it is evident that Hon'ble Commission has itself intended to specify CUF against revised Zone-wise classification and accordingly higher hub heights need to be established on actual analysis of data so collected from the wind projects, for which MEDA is under obligation to provide the same within the reasonable time period.

14. It is submitted that the MEDA is admittedly still doing its study in the subject matter in co-ordination with the NIWE and hence has continued its old procedure of classification of wind power projects into wind zone class on the basis of historical wind power density data measured at 50m hub height. Therefore, some of the wind power projects are enjoying the benefit of higher CUF along with higher wind tariff.

Despite of the above directives it is humbly submitted that MEDA has not yet completed the said exercise and is admittedly still 50 m hub height due to which some of wind projects get benefit of higher wind tariff. Thus such wind projects are being offered unjust enrichment.

15. It is submitted that this Hon'ble Commission has notified the MERC (RE Tariff) Regulations, 2015 in November 2015. It is observed that the Hon'ble Commission has made some minor changes in CUF norms of wind power projects as under:

28. Capacity Utilisation Factor

28.1 The CUF norms for Wind Energy Projects for the Review Period shall be as follows for the purpose of tariff determination:

Wind Zone	*Annual Mean Wind Power Density (W/m2)*	*CUF*
Zone 1	*≤ 250*	*22%*
Zone 2	*>250 ≤ = 300*	*25%*
Zone 3	*> 300 ≤ = 400*	*30%*
Zone 4	*> 400*	*32%*

Provided that these CUF norms may be revised by the Commission through general or specific Order considering data that may become available subsequently.

28.2 The annual mean wind power density specified in Regulation 28.1 shall be measured at 80 meter hub height, and State Nodal Agency

NOTARY M. S. GAITONDE GOVT. OF MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

shall certify the Wind Zone relevant to the proposed Wind Energy Project.

28.3 For the purpose of classification of a Wind Energy Project in a particular Wind Zone class, the State Nodal Agency shall refer to the wind power density map prepared by the National Institute for Wind Energy.

16. It is submitted further that after the MERC (RE Tariff) Regulations, 2015 came into force in November 2015, in or around August 2016, the MEDA undertook a public hearing in the matter of classification of wind power projects into wind zone class and invited comments of all stake holders. It was observed that the proposed classification of wind power projects was again based on the historical data of wind power density measured at 50 m hub height. MSEDCL submitted its comments in the subject matter on 12.08.2016 and requested to adhere to the procedure prescribed under MERC (RE Tariff) Regulations, 2015 on the basis of 80m hub height. It was further requested to consider and adopt single zone tariff similar to other states and it was also requested to consider factual generation data of 3 years and classify the wind power project on the basis of average CUF achieved during initial 3 years. A copy of the comments/suggestions as submitted by MSEDCL is annexed and marked herewith as **Annexure- A.**

17. The public hearing was held at MEDA on 18.08.2016 & 19.08.2016. Although MSEDCL comments were placed on record, its cognizance was not taken during the process of classification of wind power projects and wind zone classification letters were issued by MEDA to various wind generators. In fact, the MEDA vide letter dated August 2016 & November 2016 mentioned that they have proceeded on the basis of old procedure as per the specific approval sought from the Hon'ble Commission. A copy of letters issued by MEDA is annexed and marked herewith as **Annexure- B.**

18. The matter was again referred to MEDA vide letter dated 25.11.2016 reiterating again the criterion of 80 m hub height need to be followed when the wind power projects are having hub height more than 80 m in order to pass the benefit of technological advancement and enhanced efficiency at higher heights to utilities / consumers. Further the wind

NOTARY M. S. GAITONDE OF MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

zone classification need to be reviewed for first 3 years on the basis of actual CUF / generation and the wind zone need to be linked with actual CUF for balance tenure of EPA. A copy of the said letter dated 25.11.2016 is annexed and marked herewith as **Annexure-C.**

Hence the present petition.

Issues Involved:

a. **It is submitted that the scrutiny of wind generation data from field office reveals that greater hub height has resulted into enhanced efficiency of Wind Turbine Generator and enhanced generation with better CUF.**

b. **Need for Review of previous wind zone classification in line with actual generation:**

MSEDCL has carried out data analysis of actual wind generation vis-a-vis CUF as per wind zone allotted by MEDA in respect of new wind power projects commissioned after FY 2010-11 i.e. projects to which wind zone wise tariff is made applicable by MERC. The observations are as below:

Observations:

1. Generation data of 340 Wind power projects was analysed for FY 2013-14, FY 2014-15 and FY 2015-16.
2. Out of 340 projects, wind zone-1 has been allotted to 328 projects and wind zone-2 has been allotted to 12 projects by MEDA.
3. Out of 328 projects, classified under wind zone-1, 42 wind power projects are getting higher generation with CUF consistently more than 20 %.
4. 30 projects are getting higher generation with CUF more than 20 % for consecutive three years and 12 projects for consecutive two years.
5. Higher CUF implies that 19 wind power projects (CUF>20%) should have been classified into to wind zone-2, 22 wind power projects (CUF>23%) should have been classified into wind zone-3 and 1 project (CUF>27%) should have been classified into wind zone-4.

NOTARY M. S. GAITONDE GT. MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

6. The wind zone classification by MEDA directly determines which tariff is applicable to the wind project and thus has huge financial implications on long term basis as long as the project's life span of 25 years.

7. Considering the tariff determination of FY 2013-14, the tariff difference between wind zone -1 tariff of Rs. 5.81 to tariff of Rs.3.88 p. u. for wind zone 4 is as huge as Rs. 1.93 p. u.

8. Thus, wind generators are getting unduly benefitted twice; in terms of enhanced generation and in terms of highest tariff at the same time whereas the financial burden is passed on to the common consumers of the state.

9. Considering the actual data, the financial implications for 3 years under consideration amounts to Rs. 139 Crs. The working of the above data is annexed and marked herewith as **Annexure-D.**

Suggestions:

In view of the above, it is suggested the wind zone classification needs to be reviewed at the end of financial year based on the actual generation submitted by the generator. If the generation is more than Wind Zone 1 CUF, the wind zone classification needs to be changed accordingly and the account should be reconciled. The relevant wind zone tariff needs to be made applicable for the next financial year. If the generation is within the range of classified wind zone, the same wind zone needs to be considered for next financial year.

Such type of annual verification needs to be carried out for the first three years from the date of commissioning and the correct Wind Zone Classification based on average CUF, needs to be decided which will be applicable for the remaining tenure of EPA so that benefits of better efficiency can be passed on the common consumers.

It is to clarify further that revision in classification of wind zone will not affect the cost recovery of wind generators at all as they will get the MERC determined tariff in accordance to their CUF, but it will certainly provide relief to common consumers through reduction of power purchase cost.

NOTARY M. S. GAITONDE GT. MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

It is, therefore, suggested that, in the meantime, at least for the above said 42 wind generators wind zone classification may be reviewed and revised immediately.

19. Accordingly, MSEDCL suggested MEDA vide letter dated 19.12.2016 that to consider the analysis carried out by MSEDCL, the wind zone classification of 42 wind generators be reviewed & revised immediately. A copy of letters is annexed & marked herewith as **Annexure-E.**

20. Meanwhile, MSEDCL is in receipt of a letter dated 18.01.2017 written by MEDA requesting opinion of National Institute of Wind Energy (NIWE)on the request made by MSEDCL for review of the wind zone classification of above 42 wind generators as well as procedure suggested by MSEDCL for classification of wind zones. MEDA has neither gives their views/ comments on the MSEDCL suggestions nor proposed any other suitable methodology. A copy of letters is annexed and marked herewith as **Annexure-F.**

21. **Regulatory Provisions:**

The MERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015 empowers the Hon'ble Commission to relax, to issue order to amend the regulatory provisions as below. The relevant regulation as per Chapter 9: Miscellaneous is reproduced below for reference:

79. Power to Relax

The Commission may, by general or specific Order, for reasons to be recorded in writing and after giving an opportunity of hearing to the parties likely to be affected, relax any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

80. Issue of Order and Practice Directions

Subject to the provisions of the Act, the Commission may from time to time issue Orders and Practice Directions with regard to the implementation of these Regulations.

NOTARY
M. S. GAITONDE
GT MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

81. Power to Amend

The Commission may, at any time, vary, alter, modify or amend any provisions of these Regulations.

PRAYERS:

In view of the above it is therefore most respectfully prayed that this Hon'ble Commission may graciously be pleased to:

a) Admit the present Petition as per the provisions of the Regulation 79, 80 & 81 of MERC (RE Tariff) Regulations, 2015.

b) Revise wind zone classification of 42 generators.

c) Devise a procedure to adopt 80 m hub height (or more) data for wind power density measurement, to link up actual generation data with wind zone classification.

d) To issue directives to MEDA to review the wind zone classification of 42 wind generators & revise them as per the actual generation.

e) To issue direction to MEDA to adopt the methodology suggested by MSEDCL till the procedure to adopt 80 m hub height creation is finalized by MEDA.

f) To permit the Petitioner to make further submissions, addition and alteration to this Petition as may be necessary from time to time.

g) Condone any error/omission and to give opportunity to rectify the same;

h) Pass such further orders as this Hon'ble Commission deems fit and proper in the interest of justice and good conscience.

It is prayed accordingly.

Chief Engineer (Power Purchase)
MSEDCL

Date: 4-3-2017

Place: mumbai

BEFORE ME
4-3-2017
M. S. GAITONDE
B.A LL M
NOTARY
GREATER MUMBAI
GOVT OF MAHARASHTRA
INDIA

NOTARY
M. S. GAITONDE
GR. MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

NOTED	REGISTER
Sr. No. 495	4-3-2017

Annexure-A

MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
(A Govt. of Maharashtra Undertaking)
CIN: U40109MH2005SGC153645

Maharashtra State Electricity Distribution Co. Ltd.
Office of the Chief Engineer (Power Purchase)
"Prakashgad", 5th Floor, Station Road, Bandra (E), Mumbai -400 051.
Tel.: 26472131, 26474211 Fax : (022) 26580645
Website: www.mahadiscom.com

PP/ CP/Wind/ MEDA/ 25545 Date: 12 AUG 2016

To
The General Manager, (PG-1/ID),
Maharashtra Energy Development Agency (MEDA)
MHADA Commercial Complex, 2nd Floor, Opp.Tridal Nagar.
Yerwada, Pune-411 006

Sub: Comments on Classification of Wind Power Projects into wind zone class.

Ref: MEDA Notice No. IDD 2010/CR-28/WRA-028/2016-17 dated 15.07.2016.

Dear Sir,

With reference to the above subject, this office is in receipt of notice, under reference, in the matter of Classification of Wind Power Projects into wind zone class. Accordingly, comments of MSEDCL are submitted below:

MSEDCL Comments:

At the outset, MSEDCL submits that presently classification is being done on the basis of historical data measured at 50 m hub height and there is a need of more scientific and logical approach to establish correct wind zone. Hence, MSEDCL has requested the Hon'ble MERC to reconsider the zone wise classification & tariff for wind projects in the State and to determine a single tariff like other states such as Gujarat, Karnataka, Andhra Pradesh and Tamil Nadu. The classification of wind zone has a financial angle and hence the concerns of MSEDCL need to be considered in right spirit and need to be apprised to the MERC.

1) Measurement of annual mean Wind Power Density (WPD) at 80 m hub height:

Nowadays, it is observed that most of the new wind power projects which are being commissioned / are commissioned in the recent past are having the hub height in the range of 80 to 110 meters. Major wind turbine manufacturers now routinely offer turbines with hub heights above 80 meters. Greater hub height of wind turbines allows greater utilisation of wind energy due to the greater wind potential available at higher heights and a larger rotor diameter.

Scrutiny of wind generation data from field office reveals that greater hub height has resulted into enhanced efficiency of Wind Turbine Generator and enhanced generation with better CUF.

NOTARY M. S. GAITONDE GOVT. OF MAHARASHTRA MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020

However, it is observed that the MEDA is following the procedure for classification of wind power projects into particular wind zone on the basis of measurement of annual mean Wind Power Density (WPD) at hub height of 50 metres only. Therefore, most of the wind power projects are getting classified into wind zone-1 only with CUF ≤ 20-22% which is the minimum CUF. Such classification has enabled wind power projects to get highest tariff for wind energy from MSEDCL. It is not correct to classify the wind power projects having hub height above 80 meters on the basis of WPD measurement at 50 meter.

The MERC in its order dated 07.07.2014 in Case No. 100 of 2014 has observed that *"The Commission observes that CERC while issuing the RE Tariff Regulations, 2012 has revised zone-wise classification and respective CUF based on 80m hub height highlighting that there is no merit in contentions that WPD zones should be defined at 50m when most of the wind turbines being installed in India are having hub heights of about 80m. Further, the Commission notes that CERC while formulating its RE Tariff Regulations, 2012 has observed that some of the stakeholders including manufacturers of wind turbine are also in agreement with considering 80 m hub height against 50m hub height turbines.*

The Commission is of the view that while promoting the wind power generation through preferential tariff and other Regulatory measures, the benefit of advancement in the technology and improvement in the performance thereof should also be passed onto the utilities/consumers. In this context, the Commission notes the submission made by MSEDCL that there is need to review the wind zone classification based on the actual generation by wind power project at the end of the financial year.

------ Accordingly, the Commission directs MEDA to submit a report of project-wise CUF of wind projects in the State for the latest two years (FY 2012-13 & FY 2013-14) which would be taken into consideration to arrive at the CUF norms to be specified against the revised zone-wise classification at higher hub height. Result of such analysis shall be considered by the Commission for arriving at appropriate CUF norms in the future years".

Further the MERC RE Tariff Regulations, 2015 provides that *"The annual mean wind power density specified in Regulation 28.1 shall be measured at 80 meter hub height, and State Nodal Agency shall certify the Wind Zone relevant to the proposed Wind Energy Project".*

NOTARY
M. S. GAITONDE
G. MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

In view of the above, it is submitted that for classification of wind power projects into wind zones, measurement of WPD should be considered at 80 meter hub height only.

2) Review of previous wind zone classification in line with actual generation:

MSEDCL has carried out a sample data analysis of actual wind generation vis-a-vis CUF as per wind zone allotted by MEDA in respect of new wind power projects commissioned after FY 2010-11 and it is observed that many wind power projects are getting higher generation with CUF more than 20 % consistently for consecutive three years.

Therefore, it is observed that the wind power projects are getting unduly benefited because they are generating more @ CUF of wind zone II and are still getting highest tariff of wind zone I. Therefore, classification of wind power project into a particular zone entails huge financial implications considering the EPA tenure of 13 years. Incorrect classification leads to undue financial burden on MSEDCL consumers.

Hence, it is suggested the wind zone classification needs to be reviewed at the end of financial year based on the actual generation submitted by the generator. If the generation is more than Wind Zone 1 CUF, the wind zone classification needs to be changed accordingly and the account should be reconciled. The relevant wind zone tariff needs to be made applicable for the next financial year. If the generation is within the range of classified wind zone, the same wind zone needs to be considered for next financial year.

Such type of annual verification needs to be carried out for the first three years from the date of commissioning and the correct Wind Zone Classification based on average CUF, needs to be decided which will be applicable for the remaining tenure of EPA (Balance 10 years) so that benefits of better efficiency can be passed on the common consumers.

This is for your information and necessary action.

Yours faithfully,

Chief Engineer (Power Purchase)

Copy s.w.r. to:
1. The Director (Operations), MSEDCL, Mumbai.
2. The Executive Director (Commercial), MSEDCL, Mumbai.

NOTARY
M. S. GAITONDE
OF MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

Annexure - B

R-51186/16/6

MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)

(A Government of Maharashtra Institution)

IDD 2010/CR-28/WRA-028/2016 -17/ 3672

Date : 25/8/2016

To,
The Chief Engineer (Power Purchase)
Maharashtra State Electricity Distribution Co. Ltd.
"Prakashgad" 5th Floor, Station Road, Bandra (E),
Mumbai - 400051.

Subject: Comments on Classification of Wind Power Projects into Wind Zone Class.

Reference: MSEDCL letter no. PP/CP/Wind/MEDA/25545 dtd. 12/8/2016.

Respected Sir,

With reference to your above referred letter, the Wind Zone Classification and Evaluation Committees reply with respect to points raised is as given below.

As to point no. 1 : MEDA had already referred this issue to MERC and sought the guidance. MERC has informed vide its letter No. MERC/RE Cell No. 6/2015-16/01457 dtd. 9/2/2016. as below

"In line with Regulation 26.2 of MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010 and the Commission's ruling in Case No. 100 of 2014, MEDA shall certify the Annual Mean Wind Power Density (WPD in w/m^2) to be measured at 50 meter hub height for classification of Wind Power Project into Wind Zone Class, commissioned during FY 2014-15 and the extended period up to 9 November, 2015.

Thereafter, i.e. from 10 November, 2015 onwards, certification of WPD shall be governed as per Regulation 28.2 of MERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015".

As to point no. 2: As per MERC guidelines in this regard Wind Power Projects are classified on the basis of WPD. CUF is only considered for guidance purpose.

Wind Zone Classification and Evaluation Committee has strictly followed MERC guidelines for finalization of classification of Wind Power Projects into Wind Zone Class. The guidelines referred above are attached herewith for easy reference.

U.M. Pande
Sr. G.M (Admin & Pub.)

मा. महासंचालक
यांचे. मान्यतेने

M.S.E.D.C.L.
CE PP
SE CP
E.E. (Adm/HR Section)

Sr. No. 191, Phase - 1, MHADA Commercial Complex, 2nd Floor, Opp. Vidal Nagar, Yerwada, Pune - 411 006.
Tel. No. : 020-26614393, 26614403, Fax No. : 020-26615034. E-mail : meda@mahaurja.com Web-site : http://www.mahaurja.com

c/45

महाराष्ट्र विद्युत नियामक आयोग
Maharashtra Electricity Regulatory Commission

MERC/RE Cell No. 6/2015-16/01457 Date: 9 February, 2016

To
Shri. U. M. Pande
The Sr. General Manager
Maharashtra Energy Development Agency (MEDA),
2nd Floor, MHADA Commercial Complex,
Opp. Tridal nagar, Yerwada, Pune – 411 006.

Sub: Clarification on Hub height to be considered for measurement of WPD for classification of Wind Power projects commissioned during FY 2014-15 into Wind Zone class.

Ref: MEDA's Letter No. WRA/WZ/Note/2015-16/4240 dated 11 December, 2015.

Sir,

This is with reference to above referred letter pertaining to the captioned subject matter, wherein MEDA has referred to the Order of the Commission in Case No. 100 of 2014 dated 7 July, 2014 and sought clarification as to whether the hub height is to be considered at 80 meters or at 50 meters for determination of Annual Mean Wind Power Density (WPD in W/m^2) for Wind Zone classification of Wind Power Projects commissioned during FY 2014-15.

In this regard, I am directed to inform you that in line with Regulation 26.2 of MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010 and the Commission's ruling in Case No. 100 of 2014, MEDA shall certify the Annual Mean Wind Power Density (WPD in W/m^2) **to be measured at 50 meter hub height** for classification of Wind Power Projects into the Wind Zone class, commissioned during FY 2014-15 and the extended period up to 9 November, 2015.

Thereafter, i.e. from 10 November, 2015 onwards, certification of WPD shall be governed as per Regulation 28.2 of MERC (Terms and Conditions for Determination of Renewable Energy Tariff) Regulations, 2015.

MEDA - PUNE
12 FEB 2016
No. 1608

Yours faithfully

(Dr. Rajendra Ambekar)
Director (Tariff)

Hm.DG-
Sr. G.M. (A&A)
GM (PC)-I

NOTARY
M. S. GAITONDE
Govt. MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

१३वा मजला, केंद्र क्र. १, जागतिक व्यापार केंद्र, कफ परेड, कुलाबा, मुंबई - ४०० ००५
13th Floor, Centre No. 1, World Trade Centre, Cuffe Parade, Colaba, Mumbai - 400 005.
Tel.: 022-2216 3964 / 2216 3965 / 2216 3969 Fax : 022-2216 3976
Email : mercindia@merc.gov.in / mercindia@mercindia.org.in Website : www.merc.gov.in / www.mercindia.org.in

NOTARY GOVT. OF MAHA

Annexure - C

MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
(A Govt. of Maharashtra Undertaking)
CIN: U40109MH2005SGC153645

Maharashtra State Electricity Distribution Co. Ltd.
Office of the Chief Engineer (Power Purchase)
'Prakashgad', 5th Floor, Station Road, Bandra (E), Mumbai -400 051.
Tel.: 26472131, 26474211 Fax : (022) 26580645
Website: www.mahadiscom.com

CE/PP/NCE/Wind

To

Date: 25 NOV 2016

The Senior General Manager (Admin & Pub)
Maharashtra Energy Development Agency (MEDA)
MHADA Commercial Complex, 2nd Floor, Opp.Tridal Nagar,
Yerwada, Pune-411 006

Sub: Classification of Wind power Projects into "Wind Zone Class"

Ref: 1) T.O.L. No. PP/CP/Wind/MEDA/25545 dated 12.08.16
2) Y.O.L. No. IDD/2010/CR-28/WRA-028/2016-17/3672 dated 25.08.16 & 4597 dated 07.11.16

Dear Sir,

With reference to the above subject this is to state that this office vide letter (Ref.1) has submitted comments in the matter of hearing conducted by MEDA for Classification of Wind power Projects into "Wind Zone Class" in August 2016.

It has been clarified that as per MERC order dated 07.07.14 in Case No. 100 of 2014, the wind zone classification is required to be carried out on the basis of measurement of Wind Power Density (WPD) at 80 m hub height. It was also suggested that the wind zone classification (already issued) is required to be reviewed in light of actual generation received by the wind generators to ensure that the benefit of lower tariff, owing to higher CUF, could be passed on to utilities/consumers and wind generator are not unduly benefitted.

In this regard, this office again received Y.O.L dated 25.08.16 informing that the MEDA has strictly followed MERC guidelines for finalization of classification of Wind power Projects into "Wind Zone Class". As per the letter, no reply or response of MSEDCL was solicited.

However, vide letter dated 07.11.16, MEDA has informed that due to non receipt of reply or response from MSEDCL, it will proceed further for issuance of wind zone classification letters. The same is not factually correct as response of MSEDCL was not specifically solicited.

In view of the above, it is re-iterated that the criterion of 80m hub height needs to be followed when the wind power projects are having hub height more than 80 m in order to pass the benefit of technological advancement and enhanced efficiency at higher heights to utilities/consumers. It is therefore submitted that for wind power projects having hub height more that 80m, should not be classified on the basis of measurement of WPD at 50 m hub height. Further, wind zone classification needs to be reviewed for first 3 years on the basis of actual CUF/generation and the wind zone needs to be linked with actual CUF for the balance tenure of Energy Purchase Agreement.

This is for your information and further needful please.

Thanking you,

Yours faithfully,

Chief Engineer (Power Purchase)

Copy s. w. r. to:
(1) The Director (Operations) / (Finance), MSEDCL, Prakashgad, Mumbai – 51.
(2) The Executive Director (Dist.-I/Comm.), MSEDCL, Prakashgad, Mumbai – 51.
Copy to: OSD to CMD, MSEDCL, Prakashgad, Mumbai – 51.

NOTARY
M. S. GAITONDE
OF MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

Annexure - D

Financial Implication

Sr. No.	Name of Generator	Capacity in MW	Date of Commissioning	Actual Generation				Tariff Difference	Financial Implication for 3 years (in Crs)
				FY 2013-14	FY 2014-15	FY 2015-16	Total		
1	Rajasthan Gum Pvt. Ltd.,	2.1	30-09-2012	4022387.57	3651005.68	4494331.31	12167724.56	0.74	0.900411617
2	Bhilwara Energy Limited	2	30-03-2014	0.00	3904215.00	4038445.00	7942660.00	0.76	0.60364216
3	Hindustan Zinc Ltd	1.5	02-09-2011	4359394.00	3089780	3361755.00	10810929.00	0.7	0.75676503
		1.5	15-09-2011	4453770.00	3315569.00	3360473.00	11129812.00	0.7	0.77908684
4	Purushottam Lohia	0.80	30-09-2010	2409599.92	2555214.66	2296280.32	7261094.90	1.69	1.227125039
5	S K Parik	1.25	30-06-2011	2753637.05	2511774.21	2527608.20	7793019.45	1.4	1.091022723
6	B. C. & Sons.	1.25	30-06-2011	2914124.14	2646684.21	2199224.39	7760032.74	1.4	1.086404584
7	Shraddha Energy & Infraprojects Pvt.Ltd.	6.00	29-07-2010	13427357.98	11185455.73	11135831.80	35748645.51	1.32	4.718821207
8	Shraddha Energy & Infraprojects Pvt.Ltd.	1.50	31-07-2010	3449230.14	2992562.74	2820251.66	9262044.53	0.66	0.611294939
9	Shraddha Energy & Infraprojects Pvt.Ltd.	9.00	29-09-2011	20208095.89	17555445.06	16664278.26	54427819.22	1.4	7.619894691
10	Priyadarshini Polysacks Ltd.	1.50	18-09-2013	2157918.25	3272291.24	3248070.34	8678279.83	0.76	0.659549267
11	Pertinent Infra & Energy Ltd.	1.50	29-09-2011	3232797.20	2865976.99	2653064.56	8751838.76	0.7	0.612628713
12	Topaz Investments Pvt.Ltd.	1.50	29-09-2012	3440956.15	3108226.92	2988942.34	9538125.41	1.47	1.402104435
13	BLP Wind Project (Ambheri)Pvt Ltd.	1.60	30-05-2012	2908144.77	2715622.38	3037438.35	8661205.50	0.74	0.640929207
14	BMD Pvt. Ltd.	4.50	30-03-2012	10474440.26	8402164.94	8710719.46	27587324.65	0.74	2.041462024
15	Bhilwara Green Energy Ltd.	9.00	22-03-2012	18282281.41	17657860.59	18062874.95	54003016.96	1.47	7.938443493
16	Bhilwara Green Energy Ltd.	9.00	30-03-2012	19798419.86	16500085.81	17357091.55	53655597.21	1.47	7.88737279
17	Bhilwara Green Energy Ltd.	3.00	31-03-2012	7084249.17	5959188.70	6150014.72	19193452.58	1.47	2.82143753
18	Bhilwara Green Energy Ltd.	4.50	30-05-2012	10876721.23	8856901.16	9219077.53	28952699.91	1.47	4.256046887
19	Panama Wind Energy Pvt.Ltd.	8.00	22-02-2013	15766140.79	19770653.01	16118700.07	51655493.88	1.47	7.5933576
20	Panama Wind Energy Pvt.Ltd.	1.60	22-04-2013	3808574.95	3826804.42	3146833.26	10782212.63	1.5	1.617331894
21	Bothe Wind Farm Development Pvt.Ltd.	2.00	17-05-2013	4858432.52	3789513.08	2556426.67	11204372.26	0.76	0.851532292
22	Ratnagiri Wind Power Project Pvt.Ltd.	8.00	20-07-2013	14902626.00	12659161.57	14672459.87	42234247.44	0.76	3.209802806
23	Pristine Indusries Ltd.	1.50	18-09-2013	2136409.26	3017364.77	3283876.57	8437650.60	0.76	0.641261446
24	Suyog Development Corporation Ltd.	1.60	28-01-2013	3230912.569	3133678.71	3221007.97	6354686.68	0.74	0.470246814
25	BLP Wind Project (Ambheri)Pvt Ltd.	5.60	25-05-2012	11613336.09	10655724.10	12129821.62	34398881.82	1.47	5.056635627
26	BMD Pvt. Ltd.	1.50	31-03-2012	3791522.75	2991580.31	3106426.32	9889529.37	1.47	1.453760818
27	Bhilwara Green Energy Ltd.	1.50	11-10-2013	0.00	3502268.65	3073765.28	6576033.94	1.5	0.986405091
28	Bhilwara Green Energy Ltd.	1.50	30-03-2012	3338332.51	2775775.73	2847990.26	8962098.50	0.7	0.627346895
29	Green Infra BTV Ltd.	1.50	31-03-2012	4080977.63	2632127.44	3394952.43	10108057.49	1.4	1.415128049
30	Ratnagiri Wind Power Project Pvt.Ltd. 1 to 5,	14.40	08-12-2012	39092043.66	27790839.86	29769709.99	96652593.51	0.74	7.15229192
31	Ratnagiri Wind Power Project Pvt. Ltd.	8.00	20-07-2013	14902626.00	12659161.57	14672459.87	42234247.44	1.47	6.208434374
32	Ratnagiri Wind Power Project Pvt.Ltd.	6.40	01-06-2013	4381825.58	12022796.65	14844801.82	31249424.05	1.5	4.687413608
33	Green Infra Wind Energy Ltd.	7.50	04-05-2013	466000.42	14511115.04	15791406.50	30302521.55	1.5	4.545378232
34	Green Infra Wind Energy Ltd.	1.50	10-05-2013	75424.89	2757668.49	3420188.12	6253281.50	1.5	0.937992225
35	Green Infra Wind Energy Ltd.	9.00	21-06-2013	466295.68	16653579.97	16505697.38	33625573.03	0.76	2.55554355
36	Ratnagiri Wind Power Project Pvt.Ltd.	3.20	01-06-2013	1701189.00	7180674.44	7120105.35	16001968.79	1.5	2.400295318
37	Khandke Wind Energy Pvt.Ltd.	10.40	05-02-2014	0.00	20754219.69	23974573.19	44728792.88	1.5	6.709318933
38	Green Infra Wind Energy Ltd.	13.50	25-03-2014	0	28953848.35	32329714.86	61283563.21	1.5	9.192534481
39	Green Infra Wind Energy Ltd.	12.00	30-03-2014	0	25273971.67	28380523.89	53654495.56	1.5	8.048174334
40	Green Infra Wind Energy Ltd.	12.00	25-03-2014	0	25557435.19	28448122.73	54005557.92	1.5	8.100833687
41	Green Infra Wind Energy Ltd.	6.00	30-03-2014	0	12984480.74	13834622.43	26819103.17	1.5	4.022865475
42	NSL Wind Power Company(Satara)Pvt.Ltd.	4.50	30-03-2014	0.00	9306729.98	9799940.28	19106670.26	1.5	2.866000539
								TOTAL	139.0043292

NOTARY M. S. GAITONDE Govt. of Maharashtra Govt. of MUMBAI REGD. NO 1931/1988 Expiry Date 26-02-2020

Annexure - E

Sanjeev Kumar IAS
Chairman & Managing Director

MAHAVITARAN
Maharashtra State Electricity Distribution Co. Ltd.
CIN: U40109MH2005SGC153645

Ref. No. CMD/PP/NCE/Wind/ 037275 Date- 19 DEC 2016

To
The Director General,
Maharashtra Energy Development Agency (MEDA)
MHADA Commercial Complex, 2nd Floor, Opp.Tridal Nagar.
Yerwada, Pune-411 006

Sub: Revision in wind zone class in respect of Wind Power Projects.

Ref: 1. MERC RE tariff order dated 22.03.2013 in Case No. 6 of 2013.
2. MERC order dated 07.04.2013 in Case No. 92 of 2012.
3. MERC RE tariff order dated 07.07.2014 in Case No. 100 of 2014.
4. T. O. L. No. CP/Wind/MEDA/25545 dated 12.08.2016.

Dear Sir,

With reference to the above subject, this is to state that MSEDCL has raised the issue of mismatch between the wind zone wise classification considered and approved by the MEDA and the actual (higher) generation of electricity from the wind power projects on annual basis, several times before MERC and MEDA.

It has also been pointed out that most of the new wind power projects which are commissioned in the recent past are having the hub height in the range of 80 to 110 meters. Greater hub height of wind turbines allow greater utilisation of wind energy due to the greater wind potential available at higher heights and a larger rotor diameter. However, most of the wind power projects are still getting classified into wind zone-1 only with CUF ≤ 20-22% which is the minimum CUF, as MEDA has continued with the procedure of wind zone classification based on historical data of wind power density measurement at 50m hub height.

The CUF is one of the important parameter considered by MERC for determination of wind tariff; which ensures recovery of costs in 13 years of EPA tenure. Lower CUF indicates lowerannual generation and consequently leads to determination of higher tariff. On the other hand, higher CUF implies lower tariff.

NOTARY M. S. GAITONDE REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

Prakashgad, Plot No. G-9, Bandra (E), Mumbai-400 051. (P) 26474644 (O) : 26474211 • Fax : 26478672
Hongkong Bank Bldg., M.G.Road, Fort, Mumbai-400 001. (P) 22619499 (O) : 22619100 • Fax : 22650741
Email: md@mahadiscom.in • Website : www.mahadiscom.in

The MERC in its order dated 07.07.2014 in Case No. 100 of 2014 has considered this aspect and observed that *"The Commission observes that CERC while issuing the RE Tariff Regulations, 2012has revised zone-wise classification and respective CUF based on 80m hub height highlighting that there is no merit in contentions that WPD zones should be defined at 50m when most of the wind turbines being installed in India are having hub heights of about 80m. Further, the Commission notes that CERC while formulating its RE Tariff Regulations, 2012 has observed that some of the stakeholders including manufacturers of wind turbine are also in agreement with considering 80 m hub height against 50m hub height turbines. The Commission is of the view that while promoting the wind power generation through preferential tariff and other Regulatory measures, the benefit of advancement in the technology and improvement in the performance thereof should also be passed onto the utilities/consumers.*

Scrutiny of wind generation data from field office reveals that greater hub height has resulted into enhanced efficiency of Wind Turbine Generator and enhanced generation with better CUF.

Review of previous wind zone classification in line with actual generation:

MSEDCL has carried out data analysis of actual wind generation vis-a-vis CUF as per wind zone allotted by MEDA in respect of new wind power projects commissioned after FY 2010-11 i.e. projects to which wind zone wise tariff is made applicable by MERC. The observations are as below:

Observations:

1. Generation data of 340 Wind power projects was analysed for FY 2013-14, FY 2014-15 and FY 2015-16.
2. Out of 340 projects, wind zone-1 has been allotted to 328 projects and wind zone-2 has been allotted to 12 projects by MEDA.
3. Out of 328 projects, classified under wind zone-1, 42 wind power projects are getting higher generation with CUF consistently more than 20 %.
4. 30 projects are getting higher generation with CUF more than 20 % for consecutive three years and 12 projects for consecutive two years.
5. Higher CUF implies that 19 wind power projects (CUF>20%) should have been classified into to wind zone-2, 22 wind power projects (CUF>23%) should have been classified into wind zone-3 and 1 project (CUF>27%) should have been classified into wind zone-4.
6. The wind zone classification by MEDA directly determines which tariff is applicable to the wind project and thus has huge financial implications on long term basis as long as the project's life span of 25 years.

NOTARY M. S. GAITONDE OF MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

7. Considering the tariff determination of FY 2013-14, the tariff difference between wind zone -1 tariff of Rs. 5.81 to tariff of Rs.3.88 p. u. for wind zone 4 is as huge as Rs. 1.93 p. u.

8. Thus, wind generators are getting unduly benefitted twice; in terms of enhanced generation and in terms of highest tariff at the same time whereas the financial burden is passed on to the common consumers of the state.

9. Considering the actual data, the financial implications for 3 years under consideration amounts to Rs. 139 Crs.

In view of the above, it is suggested the wind zone classification needs to be reviewed at the end of financial year based on the actual generation submitted by the generator. If the generation is more than Wind Zone 1 CUF, the wind zone classification needs to be changed accordingly and the account should be reconciled. The relevant wind zone tariff needs to be made applicable for the next financial year. If the generation is within the range of classified wind zone, the same wind zone needs to be considered for next financial year.

Such type of annual verification needs to be carried out for the first three years from the date of commissioning and the correct Wind Zone Classification based on average CUF needs to be decided which will be applicable for the remaining tenure of EPA so that benefits of better efficiency can be passed on the common consumers.

It is to clarify further that revision in classification of wind zone will not affect the cost recovery of wind generators at all as they will get the MERCdeterminedtariff in accordance to their CUF, but it will certainly provide relief to common consumers through reduction of power purchase cost.

It is, therefore, suggested that, in the meantime, at least for the above said 42 wind generators wind zone classification may be reviewed and revised immediately.

This is for your information and further needful please.

Thanking you,

Yours faithfully,

Sanjay Kumar

Chairman and Managing Director

NOTARY
M. S. GAITONDE
OF MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
GOVT. OF MAHARASHTRA

CUF Analysis

Sr.No.	Name of Generator	Capacity in MW	Metering Point No./Location No.	Circle	Date of Commissioning	Wind Zone alloetd by MEDA (Expected CUF)	Actual CUF (in %) considering actual Generation			
							FY 2013-14	FY 2014-15	FY 2015-16	Average
1	Rajasthan Gum Pvt. Ltd.,	2.1	JTH152	Sangli	30-09-2012	Zone 1 (20%)	21.87	19.85	24.43	22.05
2	Bhilwara Energy Limited	2	BHT-19	Sangli	30-03-2014	Zone 1 (20%)	0.00	22.28	23.05	22.67
3	Hindustan Zinc Ltd	1.5	C02	Nandurbar	02-09-2011	Zone 1 (20%)	25.46	18.04	19.63	21.05
		1.5	C67	Nandurbar	15-09-2011	Zone 1 (20%)	26.01	19.36	19.63	21.67
4	Purushottam Lohia	0.80	9275	Satara	30-09-2010	Zone 1 (20%)	34.38	36.46	32.77	34.54
5	S K Parik	1.25	S 021	Satara	30-06-2011	Zone 1 (20%)	25.15	23.08	23.08	23.77
6	B. C. & Sons.	1.25	S 023	Satara	30-06-2011	Zone 1 (20%)	26.61	24.17	20.80	23.86
7	Shraddha Energy & Infraprojects Pvt.Ltd.	6.00	SH 04 to SH 07	Satara	29-07-2010	Zone 1 (20%)	25.55	21.28	21.19	22.67
8	Shraddha Energy & Infraprojects Pvt.Ltd.	1.50	SH 09	Satara	31-07-2010	Zone 1 (20%)	26.25	22.77	21.46	23.50
9	Shraddha Energy & Infraprojects Pvt.Ltd.	9.00	RB 01 to RB 06	Satara	29-09-2011	Zone 1 (20%)	25.63	22.27	21.14	23.01
10	Priyadarshini Polysacks Ltd.	1.50	RB 14	Satara	18-09-2013	Zone 1 (20%)	16.42	24.90	24.72	22.01
11	Pertinent Infra & Energy Ltd.	1.50	RB 08	Satara	29-09-2011	Zone 1 (20%)	24.60	21.81	20.19	22.20
12	Topaz Investments Pvt.Ltd.	1.50	SH 08	Satara	29-09-2012	Zone 1 (20%)	26.19	23.65	22.75	24.20
13	BLP Wind Project (Ambheri)Pvt Ltd.	1.60	F8 to 9	Satara	30-05-2012	Zone 1 (20%)	20.75	19.38	21.67	20.60
14	BMD Pvt. Ltd.	4.50	AK 11, AK 12 & AK 13	Satara	30-03-2012	Zone 1 (20%)	26.57	21.31	22.10	23.33
15	Bhilwara Green Energy Ltd.	9.00	RP1 to RP 6	Satara	22-03-2012	Zone 1 (20%)	23.19	22.40	22.91	22.83
16	Bhilwara Green Energy Ltd.	9.00	RP12F, RP13F, RP17F, RP21F, RP 22 F & RP24 F	Satara	30-03-2012	Zone 1 (20%)	25.11	20.93	22.02	22.69
17	Bhilwara Green Energy Ltd.	3.00	RP 14 F & RP 20 F	Satara	31-03-2012	Zone 1 (20%)	26.96	22.68	23.40	24.34
18	Bhilwara Green Energy Ltd.	4.50	RP16 P, RP18 P & RP19P	Satara	30-05-2012	Zone 1 (20%)	27.59	22.47	23.39	24.48
19	Panama Wind Energy Pvt.Ltd.	8.00	9, 10, 11, 12 & 13	Satara	22-02-2013	Zone 1 (20%)	22.50	28.21	23.00	24.57
20	Panama Wind Energy Pvt.Ltd.	1.60	8	Satara	22-04-2013	Zone 1 (20%)	27.17	22.45	27.30	25.64
21	Bothe Wind Farm Development Pvt.Ltd.	2.00	1 - 7	Satara	17-05-2013	Zone 1 (20%)	27.73	21.63	14.59	21.32
22	Ratnagiri Wind Power Project Pvt.Ltd.	8.00	T 32, 34, 36, 37 & 39	Satara	20-07-2013	Zone 1 (20%)	21.27	18.06	20.94	20.09
23	Pristine Indusries Ltd.	1.50	RB 15	Satara	18-09-2013	Zone 1 (20%)	16.26	24.99	24.99	22.08
24	Suyog Development Corporation Ltd.	1.60	F 17 & 18	Satara	28-01-2013	Zone 1 (20%)	23.05	22.36	22.98	22.80
25	BLP Wind Project (Ambheri)Pvt Ltd.	5.60	F 1 to 7	Satara	25-05-2012	Zone 1 (20%)	23.67	21.72	24.73	23.37
26	BMD Pvt. Ltd.	1.50	AK 07	Satara	31-03-2012	Zone 1 (20%)	28.85	22.77	23.64	25.09
27	Bhilwara Green Energy Ltd.	1.50	AK 14	Satara	11-10-2013	Zone 1 (20%)	0.00	26.65	23.39	16.68
28	Bhilwara Green Energy Ltd.	1.50	RP23F	Satara	30-03-2012	Zone 1 (20%)	25.41	21.12	21.67	22.74
29	Green Infra BTV Ltd.	1.50	RP11P	Satara	31-03-2012	Zone 1 (20%)	31.05	22.77	23.57	25.80
30	Ratnagiri Wind Power Project Pvt.Ltd. 1 to 5,	14.40	1 to 5, 7 to 10	Satara	08-12-2012	Zone 1 (20%)	23.24	22.03	23.60	22.96
31	Ratnagiri Wind Power Project Pvt. Ltd.	8.00	T 13, 16 to T 17 & T23	Satara	20-07-2013	Zone 1 (20%)	21.26	18.06	20.94	20.09
32	Ratnagiri Wind Power Project Pvt.Ltd.	6.40	T 18, 19, 24 & 25	Satara	01-06-2013	Zone 1 (20%)	7.82	21.44	26.48	18.58
33	Green Infra Wind Energy Ltd.	7.50	GF 07, 08, 09, 11 & 16	Satara	04-05-2013	Zone 1 (20%)	--	22.09	24.04	23.06
34	Green Infra Wind Energy Ltd.	1.50	GF 17	Satara	10-05-2013	Zone 1 (20%)	--	20.99	26.03	23.51
35	Green Infra Wind Energy Ltd.	9.00	GF 10, GF 12 to 15 & GF 18	Satara	21-06-2013	Zone 1 (20%)	--	21.12	20.94	21.03
36	Ratnagiri Wind Power Project Pvt.Ltd.	3.20	T 27 to T 28	Satara	01-06-2013	Zone 1 (20%)	--	25.62	25.40	25.51
37	Khandke Wind Energy Pvt.Ltd.	10.40	74, 75, 77 to 82, 121 to 124, 127	Satara	05-02-2014	Zone 1 (20%)	--	22.78	26.32	24.55
38	Green Infra Wind Energy Ltd.	13.50	BS 10 to 13 SM1, 11 to 14	Satara	25-03-2014	Zone 1 (20%)	--	24.48	27.34	25.91
39	Green Infra Wind Energy Ltd.	12.00	BS 15, 4 to 9 SM 2	Satara	30-03-2014	Zone 1 (20%)	--	24.04	27.00	25.52
40	Green Infra Wind Energy Ltd.	12.00	BS 16 to 19, 22, 24, 26 SM6	Satara	25-03-2014	Zone 1 (20%)	--	24.31	27.06	25.69
41	Green Infra Wind Energy Ltd.	6.00	BS 20, 25, 27 SM7	Satara	30-03-2014	Zone 1 (20%)	--	24.70	26.32	25.51
42	NSL Wind Power Company(Satara)Pvt.Ltd.	4.50	NSL-3, NSL-6, NSL-7	Satara	30-03-2014	Zone 1 (20%)	--	23.61	24.86	24.23

GOVT. OF MAHARASHTRA
M. S. GAITONDE
G.F. MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020
NOTARY

Proposed revision in Wind Zone classification

No. of WPP	Commissioned in FY	Name of Generator	Wind zone classified by MEDA	Wind zone to be allotted as per actual generation	Applicable rate as per Zone 1 (Rs./unit)	Rate to be applicable as per actual generation (Rs./unit)	Difference (Rs./unit)
3	2010-11	Purushottam Lohia	I	Zone IV	5.07	3.38	1.69
		Shraddha Energy & Infraprojects Pvt.Ltd.		Zone III		3.75	1.32
		Shraddha Energy & Infraprojects Pvt.Ltd.		Zone II		4.41	0.66
7	2011-12	Hindustan Zinc Ltd	I	Zone II	5.37	4.67	0.7
						4.67	0.7
		S K Parik		Zone III		3.97	1.4
		B. C. & Sons.		Zone III		3.97	1.4
		Shraddha Energy & Infraprojects Pvt.Ltd.		Zone III		3.97	1.4
		Pertinent Infra & Energy Ltd.		Zone II		4.67	0.7
		Bhilwara Green Energy Ltd.		Zone II		4.67	0.7
		Green Infra BTV Ltd.		Zone III		3.97	1.4
14	2012-13	Rajasthan Gum Pvt. Ltd.,	I	Zone II	5.67	4.93	0.74
		Topaz Investments Pvt.Ltd.		Zone III		4.2	1.47
		BLP Wind Project (Ambheri)Pvt Ltd.		Zone II		4.93	0.74
		BMD Pvt. Ltd.		Zone II		4.93	0.74
		Bhilwara Green Energy Ltd.		Zone III		4.2	1.47
		Bhilwara Green Energy Ltd.		Zone II		4.2	1.47
		Bhilwara Green Energy Ltd.		Zone III		4.2	1.47
		Bhilwara Green Energy Ltd.		Zone III		4.2	1.47
		Panama Wind Energy Pvt.Ltd.		Zone III		4.2	1.47
		Suyog Development Corporation Ltd.		Zone II		4.93	0.74
		BLP Wind Project (Ambheri)Pvt Ltd.		Zone III		4.2	1.47
		BMD Pvt. Ltd.		Zone III		4.2	1.47
		Ratnagiri Wind Power Project Pvt.Ltd. 1 to 5,7 to 10		Zone II		4.93	0.74
		Ratnagiri Wind Power Project Pvt. Ltd.		Zone III		4.2	1.47

NOTARY
M. S. GAITONDE
GOVT. OF MAHARASHTRA
MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020

No. of WPP	Commissioned in FY	Name of Generator	Wind zone classified by MEDA	Wind zone to be allotted as per actual generation	Applicable rate as per Zone 1 (Rs./unit)	Rate to be applicable as per actual generation (Rs./unit)	Difference (Rs./unit)
19	2013-14	Bhilwara Energy Limited	I	Zone II	5.81	5.05	0.76
		Priyadarshini Polysacks Ltd.		Zone II		5.05	0.76
		Panama Wind Energy Pvt.Ltd.		Zone III		4.31	1.5
		Bothe Wind Farm Development Pvt.Ltd.		Zone II		5.05	0.76
		Ratnagiri Wind Power Project Pvt.Ltd.		Zone II		5.05	0.76
		Pristine Indusries Ltd.		Zone II		5.05	0.76
		Bhilwara Green Energy Ltd.		Zone III		4.31	1.5
		Ratnagiri Wind Power Project Pvt.Ltd.		Zone II		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone II		5.05	0.76
		Ratnagiri Wind Power Project Pvt.Ltd.		Zone III		4.31	1.5
		Khandke Wind Energy Pvt.Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		Green Infra Wind Energy Ltd.		Zone III		4.31	1.5
		NSL Wind Power Company(Satara)Pvt. Ltd.		Zone III		4.31	1.5

NOTARY
M. S. GAITONDE
GOVT. OF MAHARASHTRA
MUMBAI
REGD. NO
193/1988
Expiry Date
26-02-2020

Financial Implication

Sr. No.	Name of Generator	Capacity in MW	Date of Commissioning	Actual Generation				Tariff Difference	Financial Implication for 3 years (in Crs)
				FY 2013-14	FY 2014-15	FY 2015-16	Total		
1	Rajasthan Gum Pvt. Ltd.,	2.1	30-09-2012	4022387.57	3651005.68	4494331.31	12167724.56	0.74	0.900411617
2	Bhilwara Energy Limited	2	30-03-2014	0.00	3904215.00	4038445.00	7942660.00	0.76	0.60364216
3	Hindustan Zinc Ltd	1.5	02-09-2011	4359394.00	3089780	3361755.00	10810929.00	0.7	0.75676503
		1.5	15-09-2011	4453770.00	3315569.00	3360473.00	11129812.00	0.7	0.77908684
4	Purushottam Lohia	0.80	30-09-2010	2409599.92	2555214.66	2296280.32	7261094.90	1.69	1.227125039
5	S K Parik	1.25	30-06-2011	2753637.05	2511774.21	2527608.20	7793019.45	1.4	1.091022723
6	B. C. & Sons.	1.25	30-06-2011	2914124.14	2646684.21	2199224.39	7760032.74	1.4	1.086404584
7	Shraddha Energy & Infraprojects Pvt.Ltd.	6.00	29-07-2010	13427357.98	11185455.73	11135831.80	35748645.51	1.32	4.718821207
8	Shraddha Energy & Infraprojects Pvt.Ltd.	1.50	31-07-2010	3449230.14	2992562.74	2820251.66	9262044.53	0.66	0.611294939
9	Shraddha Energy & Infraprojects Pvt.Ltd.	9.00	29-09-2011	20208095.89	17555445.06	16664278.26	54427819.22	1.4	7.619894691
10	Priyadarshini Polysacks Ltd.	1.50	18-09-2013	2157918.25	3272291.24	3248070.34	8678279.83	0.76	0.659549267
11	Pertinent Infra & Energy Ltd.	1.50	29-09-2011	3232797.20	2865976.99	2653064.56	8751838.76	0.7	0.612628713
12	Topaz Investments Pvt.Ltd.	1.50	29-09-2012	3440956.15	3108226.92	2988942.34	9538125.41	1.47	1.402104435
13	BLP Wind Project (Ambheri)Pvt Ltd.	1.60	30-05-2012	2908144.77	2715622.38	3037438.35	8661205.50	0.74	0.640929207
14	BMD Pvt. Ltd.	4.50	30-03-2012	10474440.26	8402164.94	8710719.46	27587324.65	0.74	2.041462024
15	Bhilwara Green Energy Ltd.	9.00	22-03-2012	18282281.41	17657860.59	18062874.95	54003016.96	1.47	7.938443493
16	Bhilwara Green Energy Ltd.	9.00	30-03-2012	19798419.86	16500085.81	17357091.55	53655597.21	1.47	7.88737279
17	Bhilwara Green Energy Ltd.	3.00	31-03-2012	7084249.17	5959188.70	6150014.72	19193452.58	1.47	2.82143753
18	Bhilwara Green Energy Ltd.	4.50	30-05-2012	10876721.23	8856901.16	9219077.53	28952699.91	1.47	4.256046887
19	Panama Wind Energy Pvt.Ltd.	8.00	22-02-2013	15766140.79	19770653.01	16118700.07	51655493.88	1.47	7.5933576
20	Panama Wind Energy Pvt.Ltd.	1.60	22-04-2013	3808574.95	3826804.42	3146833.26	10782212.63	1.5	1.617331894
21	Bothe Wind Farm Development Pvt.Ltd.	2.00	17-05-2013	4858432.52	3789513.08	2556426.67	11204372.26	0.76	0.851532292
22	Ratnagiri Wind Power Project Pvt.Ltd.	8.00	20-07-2013	14902626.00	12659161.57	14672459.87	42234247.44	0.76	3.209802806
23	Pristine Indusries Ltd.	1.50	18-09-2013	2136409.26	3017364.77	3283876.57	8437650.60	0.76	0.641261446
24	Suyog Development Corporation Ltd.	1.60	28-01-2013	3230912.569	3133678.71	3221007.97	6354686.68	0.74	0.470246814
25	BLP Wind Project (Ambheri)Pvt Ltd.	5.60	25-05-2012	11613336.09	10655724.10	12129821.62	34398881.82	1.47	5.056635627
26	BMD Pvt. Ltd.	1.50	31-03-2012	3791522.75	2991580.31	3106426.32	9889529.37	1.47	1.453760818
27	Bhilwara Green Energy Ltd.	1.50	11-10-2013	0.00	3502268.65	3073765.28	6576033.94	1.5	0.986405091
28	Bhilwara Green Energy Ltd.	1.50	30-03-2012	3338332.51	2775775.73	2847990.26	8962098.50	0.7	0.627346895
29	Green Infra BTV Ltd.	1.50	31-03-2012	4080977.63	2632127.44	3394952.43	10108057.49	1.4	1.415128049
30	Ratnagiri Wind Power Project Pvt.Ltd. 1 to 5,	14.40	08-12-2012	39092043.66	27790839.86	29769709.99	96652593.51	0.74	7.15229192
31	Ratnagiri Wind Power Project Pvt. Ltd.	8.00	20-07-2013	14902626.00	12659161.57	14672459.87	42234247.44	1.47	6.208434374
32	Ratnagiri Wind Power Project Pvt.Ltd.	6.40	01-06-2013	4381825.58	12022796.65	14844801.82	31249424.05	1.5	4.687413608
33	Green Infra Wind Energy Ltd.	7.50	04-05-2013	466000.42	14511115.04	15791406.50	30302521.55	1.5	4.545378232
34	Green Infra Wind Energy Ltd.	1.50	10-05-2013	75424.89	2757668.49	3420188.12	6253281.50	1.5	0.937992225
35	Green Infra Wind Energy Ltd.	9.00	21-06-2013	466295.68	16653579.97	16505697.38	33625573.03	0.76	2.55554355
36	Ratnagiri Wind Power Project Pvt.Ltd.	3.20	01-06-2013	1701189.00	7180674.44	7120105.35	16001968.79	1.5	2.400295318
37	Khandke Wind Energy Pvt.Ltd.	10.40	05-02-2014	0.00	20754219.69	23974573.19	44728792.88	1.5	6.709318933
38	Green Infra Wind Energy Ltd.	13.50	25-03-2014	0	28953848.35	32329714.86	61283563.21	1.5	9.192534481
39	Green Infra Wind Energy Ltd.	12.00	30-03-2014	0	25273971.67	28380523.89	53654495.56	1.5	8.048174334
40	Green Infra Wind Energy Ltd.	12.00	25-03-2014	0	25557435.19	28448122.73	54005557.92	1.5	8.100833687
41	Green Infra Wind Energy Ltd.	6.00	30-03-2014	0	12984480.74	13834622.43	26819103.17	1.5	4.022865475
42	NSL Wind Power Company(Satara)Pvt.Ltd.	4.50	30-03-2014	0.00	9306729.98	9799940.28	19106670.26	1.5	2.866000539
								TOTAL	139.0043292

GOVT. OF MAHARASHTRA NOTARY M. S. GAITONDE Gr. MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020

Annexure - F

MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)

(A Government of Maharashtra Institution)

IDD/CUF/C-WET/2016-17/297 Date: 18-01-2017

To,

Addl. Director/Head, WRA
National Institute of Wind Energy (NIWE)
Velachery – Tambaram High Road,
Pallikaranai Chennai - 601 100.

Fax: 044-22463980

Sub: - Wind zone class in respect of Wind Power Projects – Reg.
Ref:- Letter from CMD, MSEDCL no. CMD/PP/NCE/Wind/037275 dated 19.12.2016

Dear Sir,

As per directives of MERC, MEDA has finalized the procedure for classification of Wind Power Project into Wind Zone class in consultation with all stake holders including NIWE. MERC has given approval to this procedure. The copy of wind zone classification procedure is attached as an annexure I. MEDA has issued Wind Zone class letters to eligible wind power projects as per the set procedure.

MERC through its RE Tariff Regulations 2010, fixed hub height for measurement of WPD at 50m and norms for CUF through various orders are attached in annexure II. MERC subsequently through it's RE Tariff Regulations 2015 dated 10th Nov 2015, has modified hub height for measurement of WPD at 80m.

MSEDCL has raised the issue of the actual (higher) generation of electricity from the wind power projects on annual basis for which MEDA has issued Zone I letters to 328 wind generators. MSEDCL has carried out data analysis of actual wind generation vis-s-vis CUF as per wind zone I allotted by MEDA to 42 out of 328 wind generators and found getting higher generation with CUF consistently more than 20%. Letter from MSEDCL enclosed as an annexure III.

In view of issues raised by MSEDCL regarding the Zone allotted on the basis of WPD and actual generation, you are requested to give your technical opinion on the points raised by MSEDCL.

Thanking You

Yours Faithfully,

(N. A. Hise)
General Manager (PG-1/IDD)

Encl: As above

C.C. - Hon. Chairman and Managing Director,
Mahavitaran, Prakashgad, Plot no. G-9, Bandra (E)
Mumbai -400051.

CE (COMM)	
CE (SP)	
SE	
ED (OFFICE)	

Sr. No. 191, Phase - V, MHADA Commercial Complex, 2nd Floor, Opp. Tridal Nagar, Yerwada, Pune - 411 006.
Tel. : 020-26614393, 26614403, Fax No. : 020-26615031. E-mail : meda@mahaurja.com Web-site : http://www.mahaurja.com

NOTARY M. S. GAITONDE GOVT. OF MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

Annex I

Annexure - II

Procedure for classification of wind power projects into wind zone class

a. The value of annual mean Wind Power Density (WPD) of the windy sites declared by Centre for Wind Energy Technology (C-WET) under Ministry of New and Renewable Energy (MNRE) or Maharashtra Energy Development Agency (MEDA) programme; or the value of the annual mean WPD of the private windy site data vetted by C-WET, shall form the basis for the classification of wind power projects into wind zone class.

b. The effective area for each windy site declared by C-WET under MNRE or MEDA programme, and for the private windy site data vetted by C-WET, shall be 10 km radial distance from the location of the wind mast, which will be the reference point. The annual mean WPD at the wind mast shall be considered to be the annual mean WPD for the effective area of that windy site. This annual mean WPD will be made applicable for the wind power projects falling within such effective area.

c. If a wind power project falls within the effective areas of two different wind masts having different values of annual mean WPD, then the annual mean WPD of the nearest wind mast shall be considered for that project. MEDA may advise the developer/investor, if found necessary in such a case, to approach C-WET to obtain project specific annual WPD report from C-WET.

d. i) Within the effective area, if 50% or more than 50% of WTG location co-ordinates of a wind power project are falling above or below 60m elevation difference with reference to the mean sea level of the wind mast, then either MEDA can advise the developer/investor to approach C-WET to obtain project specific annual mean WPD report from C-WET; or the developer/investor can request MEDA for permission to approach C-WET to obtain project specific annual mean WPD report from C-WET. MEDA may

NOTARY M. S. GAITONDE GT MUMBAI REGD. NO 193/1988 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA

allow developer/investor to approach C-WET only in those cases which fall under this criterion.

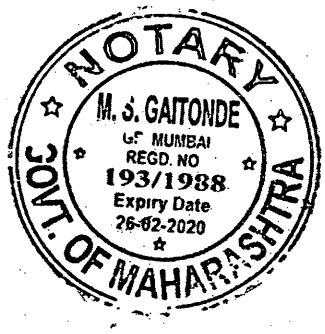
ii) The classification of such wind power projects into wind zone class will be done on the basis of the project specific annual mean WPD issued by C-WET, a copy of which will be marked by C-WET to MEDA.

iii) C-WET will lay down appropriate methodology for the issuance of the project specific annual mean WPD.

e. The developer/investor is required to optimize all technical parameters for maximum generation from the wind power project classified as per this procedure. The feasibility of the project will be the responsibility of the developer / investor. C-WET and / or MEDA shall not be responsible in any way for the feasibility of the project, and/ or for the non achievement of PLF by any or all WTGs in the project area. C-WET and / or MEDA will not entertain any complaint in this regard.

f. The developer/investor who intends to sign Energy Purchase Agreement with the distribution licencee should submit application in the prescribed format to MEDA for wind zone classification. After due processing and enquiry, MEDA will issue a letter in respect of classification of the wind power project under consideration, into appropriate wind zone class. The letter will be issued to the developer/investor, with a copy marked to the concerned distribution licensee. Meanwhile, the developer/investor shall also submit an undertaking to MEDA, prescribed in this regard for obtaining clearances.

g. This procedure may be reviewed by MEDA, keeping in view the difficulties in implementation. MEDA reserves the right to make appropriate changes, if and when required.



Annex II

Annexure-II

In accordance with Regulation 26 of the MERC (Terms and Conditions for determination of RE Tariff) Regulations, 2010, the norms for Capacity Utilization Factor (CUF) specified for wind energy projects are as under:

RE Project-Wind - 2010-11 dated 14th July 2010 & 2011-12 dated 29th April 2011 MERC ORDER

Wind Energy Projects	CUF
Annual Mean Wind Power Density (W/m2)	
Wind zone-1 (200-250)	20%
Wind zone-2 (250-300)	23%
Wind zone-3 (300-400)	27%
Wind zone-4 (above 400)	30%

RE Project-Wind – 2012-13 dated 30th March 2012 MERC ORDER

Wind Energy Projects	CUF
Annual Mean Wind Power Density (W/m2)	
Wind zone-1 (Above 200 and <=250)	20%
Wind zone-2 (Above 250 and <=300)	23%
Wind zone-3 (Above 300 and <=400)	27%
Wind zone-4 (Above 400)	30%

RE Project-Wind – 2013-14 dated 22nd March 2013 MERC ORDER

Wind Energy Projects	CUF
Annual Mean Wind Power Density (W/m2)	
Wind zone-1 (<=250)	20%
Wind zone-2 (> 250 - <=300)	23%
Wind zone-3 (> 300 - <=400)	27%
Wind zone-4 (> 400)	30%

RE Project-Wind – 2014-15 dated 7th July 2014 and 2015-16 dtd. July 7,2014 Extends MERC ORDER dtd. 22.4.15 till 31 July, 2015, Extends MERC ORDER dtd. 21.7.2015 till 31 October, 2015, Extends MERC ORDER dtd. 4.11.2015 till 31 December, 2015, from 10 November, 2015 to 31 March, 2016 MERC ORDER dtd. 25.1.2016 MERC ORDER

Wind Energy Projects	CUF
Annual Mean Wind Power Density (W/m2)	
Wind zone-1 (<=250)	22%
Wind zone-2 (> 250 - <=300)	25%
Wind zone-3 (> 300 - <=400)	30%
Wind zone-4 (> 400)	32%

NOTARY M. S. GAITONDE GT MUMBAI REGD. NO 193/1983 Expiry Date 26-02-2020 GOVT. OF MAHARASHTRA